Cerebral Palsy

The guidelines below should be used to assess all WIC applicants diagnosed with Cerebral Palsy in addition to the categorically appropriate Nutrition Management guideline. Elements indicated by an asterisk (*) are optional and not required to assess WIC eligibility.

DEFINITION: Cerebral palsy (CP) is a broad term used to describe a group of chronic, nonprogressive disorders. The disorders result from injury to the brain during the early stages of development. CP is not a specific disease but a complex of symptoms, providing a useful therapeutic classification.

Spastic: Increased skeletal muscle tone, and persistent primitive reflexes.

Hypotonic: Diminished skeletal muscle tone.

Dystonic: Disordered tonicity of muscles.

Athetoid: Involuntary, slow, writhing movements.

Combination/Mixed: Combination of disorders described above present.

Table 1: Neurological Impairment Classification

The prevalence of CP is from 1.5 to 2.5 per 1000 live births. CP is more frequent in premature or small for gestational age infants. Babies whose birth weight is less than 2500 g account for about one third of all babies who later have signs of CP. CP is classified according to characteristics of the predominant neurological impairment (Table 1) and the extremities involved (Table 2).

CP is a lifelong condition. The treatment goal is to develop maximal independence within the limits of their conditions.

RATIONALE: Children with CP may have multiple nutrition related health problems requiring specialized nutrition interventions. The presence or severity of these problems will vary according to the type and degree of motor dysfunction. These problems include neurologic abnormalities, dental problems, constipation, and delayed growth.

Monoparesis: Involvement of one limb.

Hemiparesis: Involvement of one side of the body, arm more than leg.

Quadriparesis: Significant involvement of all four limbs.

Diparesis: Significant involvement of legs with little or no arm involvement.

Table 2: Extremity Classifications

Neurologic abnormalities, including impaired motor skills, and oral motor dysfunction, can significantly affect food intake. Impaired motor skills contribute to feeding problems by interfering with the child's ability to sit at a table, grasp eating utensils and bring food to their mouth. Oral motor dysfunction includes difficulty with mouth closure, sucking, swallowing or chewing, abnormal reflexes such as a bite reflex, or hyperactive gag reflex, and tongue thrust. These problems may result in inadequate feeding skills, coughing, aspiration, reflux, and vomiting. Feeding problems may extend time required for meals. Meals may frequently exceed 45 minutes, likely exceeding the tolerance and attention span of the child and the available time of the caregiver.

Dental problems may complicate feeding difficulties. Malocclusion, particularly overbite, and bruxism are more common in children with CP. Bruxism is involuntary grinding and clenching of teeth. Bruxism and malocclusion may cause chewing problems. Impaired motor control may impede appropriate oral hygiene, leading to an increase in dental caries and gum disease.

Constipation is prevalent in children with CP. The constipation may be caused by abnormal muscle tone, decreased activity level, side effects from medications and/or poor eating habits.

Delayed growth may be related to the severity of the muscle impairment, nutrition disorders and/or feeding problems. The degree of growth impairment has been found to be associated with the severity of motor impairment, nutritional factors and oral-motor dysfunction.

Given these many disorders associated with the condition, nutritional needs of the child with CP may be multifaceted and complex. Therefore, pediatric clients with CP require close nutrition supervision.

MANAGEMENT:

1.0 GOAL: To provide a nutritionally balanced diet.

2.0 GUIDELINES:

- 2.1 To provide a nutritionally balanced diet containing adequate nutrients to support appropriate growth/weight gain and development.
  - 2.1.1 Energy needs for children with CP will vary according to the type and degree of motor dysfunction.
  - 2.1.2 Conventional methods for estimating caloric requirements are inappropriate for nonambulatory children with CP.
- 2.2 Spastic CP causes limited mobility and may result in lower calorie needs.

2.3 Children with athetoid CP have continuous involuntary movements. This extra movement causes them to use more calories and raises their daily energy requirements.

2.4 The energy intake issue is even more critical for patients with severe disabilities because of their inability to clearly communicate hunger and satiety.

3.0 NUTRITIONAL ASSESSMENT/COUNSELING: The diet assessment and counseling for clients with CP should look at the general dietary pattern and review for obvious problems. If a concern is identified during the assessment, the primary care nutritionist should be contacted.

3.1 Special techniques may be required to obtain current stature.

3.1.1 A recumbent length measurement may be measured for children over 3 years of age who are not able to stand erect when unsupported. A note should be made in KWIC to indicate the measurement was a recumbent length.

3.1.2 An arm span measurement should be taken for children with spinal curvature, contractures, or any other condition that prevents proper positioning. Arm span measurements are made from fingertip to fingertip across the back. The measurement should be recorded as an arm span (AS) on the KWIC measures tab.

3.1.3 A segmental length measurement should be taken for children with spinal curvature, contractures, or any other condition that prevents proper positioning and who have arm contractures that will not allow for accurate arm span measurement. Segmental length measurements are made by adding the lengths of each body segment (crown-rump, hip-knee, and knee-foot). The measurement should be recorded as a segmental length (SL) on the KWIC measures tab.

3.2 Special techniques may be required to obtain current weight.

3.2.1 Infants and children who cannot stand and weigh less than the scale's capacity (frequently 30 pounds) should be weighed on the infant scales regardless of their age.

3.2.2 Children who cannot stand but are too large to be weighed on the infant scales can be weighed by weighing the parent and child. Then weigh the parent alone, and finally subtract the parent's weight from the first weight to obtain the child's weight. The technique should be recorded on the KWIC measures tab.

3.3 Assess Nutrition History.

3.3.1 Evaluate medical/clinical factors that may affect nutrient intake, digestion or absorption.
- Assess for neurologic abnormalities.
- Refer to occupational, physical, or speech therapist if impaired motor skills or oral motor dysfunction affect food intake.

3.3.2 Assess for dental problems.
- Encourage frequent brushing.
- Discourage sweet snacks.
- Refer to a pediatric dentist if dental problems complicate feeding difficulties.

3.4 Assess for constipation.
- 3.4.1 Encourage intake of high fiber foods or prune juice.
- 3.4.2 Encourage intake of fluids.
- 3.4.3 Discourage use of laxatives containing mineral oil due to interference with absorption of fat-soluble vitamins.

3.5 Assess for medications (e.g. anticonvulsants, antibiotics, etc.) which may have drug / nutrient interactions.

3.6 Assess appropriateness of feeding method to developmental abilities.

3.7 Assess consistency and texture of foods offered.

4.0 REFERENCES

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